

# The Scientific American Supplement. Index for Vol. 60.

JULY-DECEMBER, 1905.

The \* Indicates that the Article is Illustrated with Engravings.

<p><b>A</b></p> <p>Abrasive materials.....24794</p> <p>Acceleration, measurement.....25075</p> <p>Accumulator, Edison.....*25064</p> <p>Accumulator, test, improvem.....25073</p> <p>Acetylene searchlight.....*24955</p> <p>Acid, nitric, apparatus.....*24706</p> <p>Acid receptacles, lining.....24812</p> <p>Actinium.....24810</p> <p>Adulteration of food.....24827</p> <p>Aerial flight, new principles.....*24991</p> <p>Aerodrome, Langley, failure.....*24765</p> <p>Aeromotors.....24859</p> <p>Age, old.....24954, 24967</p> <p>Agriculture.....24732</p> <p>Agriculture, art of.....25003</p> <p>Agriculture, betterment of.....24667</p> <p>Agriculture, capital in.....24763</p> <p>Agriculture, first book on.....24748</p> <p>Agriculture, instruction in.....24945</p> <p>Agriculture, motive power in.....24731</p> <p>Agriculture, problems.....24684, 24699</p> <p>Agricultural develop. West.....24659</p> <p>Almos, the.....*24840</p> <p>Air-brake system, German.....*24789</p> <p>Air, hot, heating with.....24798</p> <p>Air, liquid, plant.....*24704</p> <p>Airships, latest performances.....*24771</p> <p>Alcohol, denaturized.....24839</p> <p>Alcohol in Germany.....24839</p> <p>Algebraic symbols.....24779</p> <p>Alloys, aluminum.....24706</p> <p>Alloys, iron.....24859</p> <p>Alloys, iron, use of.....24715</p> <p>Alloys, magnetic.....24947</p> <p>Alloys, platinum.....24991</p> <p>Alloys, soft solder.....24780</p> <p>Alloys, tantalum.....24799</p> <p>Alumina, anhydrous.....24940</p> <p>Aluminum alloys.....24906</p> <p>Aluminum compounds, new.....24920</p> <p>Aluminum, coppering.....24907</p> <p>Aluminum foil.....24969</p> <p>Aluminum in steel.....24860</p> <p>Aluminum, platinizing.....24892</p> <p>Aluminum steel.....24999</p> <p>Aluminum, to darken.....25050</p> <p>Aluminothemic process.....24928</p> <p>Amalgams.....24982</p> <p>Amalgam silver, to make.....24982</p> <p>Ammonia, synthetic.....24924</p> <p>Anchor ice.....24697</p> <p>Anchor strap, concrete.....24784</p> <p>Animals, domestic life.....*25044</p> <p>Antitoxin theory.....24955</p> <p>Ants, sense of smell in.....24820</p> <p>Apodoseology, the.....24672</p> <p>Are, electric, in vacuum.....24888</p> <p>Are, mercury.....24755</p> <p>Are, singing.....24887</p> <p>Arca, stroboscopic observa.....24824</p> <p>Arch, Monier.....24785</p> <p>Archaeological exhib. Paris.....*25076</p> <p>Argento-nickel process.....24940</p> <p>Arsenic, yellow, forming.....24891</p> <p>Artists, anachronisms of.....24690</p> <p>Astronomy, progress of.....24782</p> <p>Automobile, Brazier.....24696</p> <p>Automobile, gasoline, in agri.....24917</p> <p>Automobile testing laboratory.....24852</p> <p>Automobiles, Fiat.....24756</p> <p>Automobiles, industrial.....24894</p> <p>Automobiles, winning.....24696</p> <p>Auto-starter for motor.....*24693</p> <p>Autotelegraph, Cerebotani.....*24736</p>	<p>Bollers, foaming of.....25052</p> <p>Bollers, notes on.....24907</p> <p>Bollers, steam, note on.....24987</p> <p>Borax, effect on health.....24682</p> <p>Brains, weight of.....25020</p> <p>Brake, electric-pneumatic.....*24789</p> <p>Brake, emergency, auto.....*24953</p> <p>Brandy, manufacture of.....24794</p> <p>Brass, matt dip for.....24879</p> <p>Breathing in living beings.....24887</p> <p>Bricks, glass.....24658</p> <p>Bridge building.....24907</p> <p>Bridge, foot, Milan.....24801</p> <p>Bridge, Kazarguene.....*24750</p> <p>Bridge, Moeller.....*24802</p> <p>Bridge, Victoria Falls.....*24941</p> <p>Bridges, cantilever.....25052</p> <p>Bridges, highway.....25019</p> <p>Bridges, iron, Amer. and Eur.....24811</p> <p>Brilliantine, mineral.....24871</p> <p>Briquettes, manufacture of.....*24664</p> <p>Briquettes, peat.....*24973</p> <p>Bromine, production, in 1904.....24826</p> <p>Bronze, brown oxidation.....24907</p> <p>Bronze castings for naval use.....24725</p> <p>Bronze coloring.....24945</p> <p>Bronze powder.....24940</p> <p>Bronze powder, coloring.....25035</p> <p>Bronze tincture.....25067</p> <p>Building material, new.....24747</p> <p>Bulbs, Roentgen, dangers in.....24891</p> <p>Butter, artificial.....24859</p>	<p><b>C</b></p> <p>Calamary, the.....24848</p> <p>Camera, time-recording.....24796</p> <p>Canal, Kiel.....24668</p> <p>Cancer and radium rays.....24899</p> <p>Capacity, variation of.....24928</p> <p>Car, Richard-Brazier.....24696</p> <p>Car, sleeping, the.....24939</p> <p>Cars, electric, new.....25019</p> <p>Cars, Flat.....*24756</p> <p>Cars, winning, in trophy race.....*24921</p> <p>Carbide, purchase of.....24715</p> <p>Carbides.....25036</p> <p>Carbolineum.....25067</p> <p>Carbon, forms of.....24860</p> <p>Carbon in steel.....24779</p> <p>Carbon, melting point of.....24890</p> <p>Carbon monoxide plant.....*24817</p> <p>Carbon rods and plates.....24880</p> <p>Carbon tube furnaces.....24770</p> <p>Carburetor, Arrol-Johnston.....*24921</p> <p>Case hardening.....*24786</p> <p>Cast-recording machine.....*24872</p> <p>Cast tin covers, polishing.....24892</p> <p>Castings, curving of.....25040</p> <p>Castor bean supply.....24779</p> <p>Castor beans, production of.....24843</p> <p>Castor beans, products from.....24827</p> <p>Castor oil.....24763</p> <p>Castor oil for cooking.....24811</p> <p>Castor oil mill.....24891</p> <p>Castor oil plant, the.....24716</p> <p>Castor oil, uses of.....24795</p> <p>Catacombs, Roman.....25077</p> <p>Catalysis.....24985</p> <p>Cave, chasms in.....24680</p> <p>Cave, drawings.....24920</p> <p>Caves, some remarkable.....25034</p> <p>Cavendish, Henry.....24896</p> <p>Cavite floating dock.....*24656</p> <p>Cell, new form of.....*24912</p> <p>Cellulose, yarns from.....24878</p> <p>Cement for chemical appar.....24828</p> <p>Cements and mortars.....25017</p> <p>Charlottenburg schools.....24814</p> <p>Chemical affinity.....24792</p> <p>Chemistry, electro, agricult.....*24706</p> <p>Chemistry, physical progress.....24939</p> <p>Chemistry, synthetic.....24971</p> <p>Chemistry, technical, Amer.....24726</p> <p>Chestnut weevils.....24748</p> <p>Chimney, Monier.....24801</p> <p>China, population of.....24797</p> <p>Cities, eastern, population.....25039</p> <p>Clay products of U. S.....24824</p> <p>Clock, synchronizing.....24860</p> <p>Cloths, dust.....24747</p> <p>Cloths, protection vs. rot.....24859</p> <p>Clutch, reversing, novel.....24884</p> <p>Coal-handling plant, a.....*24677</p> <p>Coal, origin of.....24791</p> <p>Coal resources of Belgium.....24696</p> <p>Coatings for iron and zinc.....24806</p> <p>Coherer, action, theory of.....24958</p> <p>Coherers, types of.....24939</p> <p>Colic, epidemic of, England.....24699</p> <p>Colic in plants.....24842</p> <p>Colors, stamping.....25067</p> <p>Combustion, perfect.....25035</p> <p>Combustion, smokeless.....*24788</p> <p>Compressing, gas, plant.....*24817</p> <p>Concrete.....*24721</p> <p>Concrete block, integrity.....24907</p> <p>Concrete fence posts.....24668</p> <p>Concrete, reinforced.....25058</p> <p>Concrete, reinforced.....25070</p>	<p>Concrete, reinforced.....*24784</p> <p>Concrete roofs.....*24800, 24853</p> <p>Conductors, electric phenom.....24939</p> <p>Copper, cleaning.....24828</p> <p>Copper in typhoid.....24831</p> <p>Copper ores, extraction.....*25038</p> <p>Cotton.....24874</p> <p>Cotton, artificial.....24700</p> <p>Cotton plant, enemies of.....24891</p> <p>Counting, beginnings of.....24822</p> <p>Crane, block-setting.....*24948</p> <p>Crane, 50-ton electric.....24989</p> <p>Crystals, figures on.....*24936</p> <p>Cultivator, gasoline.....*24948</p> <p>Currents, measurement of.....24983</p> <p>Currents, telluric.....*24984</p> <p>Cyanide process.....24739, 24805</p> <p>Cycle, motor, races.....*24772</p> <p>Cylinder head packing.....25006</p> <p><b>D</b></p> <p>Delphi, excavations at.....*25054</p> <p>Demaria, stereo project of.....*24672</p> <p>Depilatory powder.....24828</p> <p>Detector of Hertzian waves.....24939</p> <p>Diageotropism.....24979</p> <p>Diamond, genesis of.....24875</p> <p>Diamonds.....24850, 24874, 24890</p> <p>Diamonds and diamond in dust.....24810</p> <p>Diamoride, meteoric.....24890</p> <p>Diamonds, engraving on.....25027</p> <p>Diaphragm, new.....24923</p> <p>Diagrams.....24868</p> <p>Dip, matt, for brass.....24879</p> <p>Discharge potentials.....25075</p> <p>Dissociation in dilute solut.....24931</p> <p>Dock, floating, Cavite.....*24656</p> <p>Draft, mechanical advantages.....24815</p> <p>Dredges, sea-going.....*24797</p> <p>Dust cloths.....24747</p> <p>Dyes, experiments with.....24836</p> <p>Dynamics in physics, rise of.....25033</p> <p>Dynamo, small, to build a.....*24960</p> <p><b>E</b></p> <p>Earth, evolution of.....25003</p> <p>Earth in high tens. transm.....25074</p> <p>Earth, movement of.....24714</p> <p>Earths, rare, in illuminants.....*24670</p> <p>Ebony stain.....25004</p> <p>Eclipse of sun.....24808</p> <p>Eclipse, solar, observations.....24714</p> <p>Education in Japan.....24781</p> <p>Eggs, reptiles, venom in.....25011</p> <p>Eggs, unfertilized, develop.....24971</p> <p>Elastics, brief history of.....24983</p> <p>Electrical notes.....24666, 24683</p> <p>24699, 24715, 24731, 24747, 24764</p> <p>24796, 24811, 24827, 24860, 24891</p> <p>24907, 24923, 24939, 25003, 25019</p> <p>25035, 25051</p> <p>Electricity, medical.....25019</p> <p>Electricity, what is.....24875</p> <p>Electrification of N. Y. C.....25022</p> <p>Electrolysis in hair removal.....25035</p> <p>Electron, dynamics of.....24720</p> <p>Electrons, discharge of.....24827</p> <p>Electro-chemistry, agricult.....*24706</p> <p>Electro-plating, chemistry of.....24930</p> <p>Electrotyping.....24735</p> <p>Electrolytic detector.....25075</p> <p>Elevator, Strassburg.....24801</p> <p>Emery, artificial.....24844</p> <p>Empiricism.....24843</p> <p>Energy, electric, utilization.....24683</p> <p>Energy, forms, nature of.....24859</p> <p>Energy, free, notions on.....24842</p> <p>Engine, gas, regulation.....25003</p> <p>Engine, rolling beam, powerful.....*24926</p> <p>Engine, steam, four-cylinder.....*24853</p> <p>Engine, steam, vs. gas motor.....24763</p> <p>Engine, turbine, simple.....25041</p> <p>Engineer, testing, the.....24972</p> <p>Engineer, the good.....24763</p> <p>Engineers, testing.....24987</p> <p>Engineering, instruction in.....24779</p> <p>Engineering notes.....24668, 24683</p> <p>24699, 24715, 24729, 24763, 24795</p> <p>24811, 24843, 24859, 24875, 24891</p> <p>24907, 24923, 24939, 24956, 24972</p> <p>24987, 25003, 25019, 25035, 25052</p> <p>25081</p> <p>Engineering, rural.....24683</p> <p>Engineering, theatrical.....24686, 24701</p> <p>Entropy, notions of.....24842</p> <p>Ephesus, discoveries at.....24870</p> <p>Errors, law of.....*24952</p> <p>Ether and matter.....24963</p> <p>Ether drift.....24743</p> <p>Ether, nature and operation.....24827</p> <p>Evolution and man, matter.....25050</p> <p>Evolution, evidence of.....24937</p> <p>Expansion experiments.....*25081</p> <p>Explosives, coefficient of safety.....24700</p>	<p>Explosives, new.....24927</p> <p>Export goods, packing.....24798</p> <p>Exposition, floating.....24819</p> <p>Exoression, movements of.....*24849</p> <p><b>F</b></p> <p>Faraday effect.....24698</p> <p>Farm, adapt. to soil and clim.....24667</p> <p>Farm machinery.....24739, 24763</p> <p>Farmer, a conservative.....24770</p> <p>Fauna of moss.....24937</p> <p>Feathers, dyeing and bleach.....24879</p> <p>Feet, movements of.....*24849</p> <p>Ferments, soluble.....24863</p> <p>Ferry and railway terminal.....*24701</p> <p>Fertilizer epoch.....24684</p> <p>Fever, tick.....25068</p> <p>Fever, yellow, origin.....24915</p> <p>Fibers, textile, new.....24878</p> <p>Fig, fructification of.....*24969</p> <p>Figures on crystals.....*24936</p> <p>Films of cellulose.....24955</p> <p>Filter press.....*24857</p> <p>Fireproofing, wood.....24955</p> <p>Fires, brush.....24843</p> <p>Fires, forest.....24684</p> <p>Fireproofing for textiles.....24828</p> <p>Fish, hearing in.....25002</p> <p>Flames, temperature of.....24691</p> <p>Flask, warming, cheap.....25004</p> <p>Flat on commutators.....24715</p> <p>Flight, soaring, principles.....*24904</p> <p>Floating dock, Cavite.....*24656</p> <p>Floating exposition.....24819</p> <p>Floor, concrete.....24785</p> <p>Floors, oak-grained.....25035</p> <p>Floors, Slegwart.....24800</p> <p>Flowers, coloration of.....24899</p> <p>Fly, black, destruction of.....*24871</p> <p>Fly, Hessian.....24891</p> <p>Fog-dispelling apparatus.....*24912</p> <p>Food imports, inspection of.....24695</p> <p>Food inspection.....24955</p> <p>Food, pure, legislation.....24811</p> <p>Forest fires.....25067</p> <p>Forestry, possibilities of.....24971</p> <p>Formaldehyde, estimation of.....24924</p> <p>Formol base, antiseptic.....25004</p> <p>Formula.....25035, 25051</p> <p>Formula, selected.....24731, 25019</p> <p>Fossils, plant.....*24952</p> <p>Frames, gilt, cleaning.....25019</p> <p>Fruits, preserving.....24700</p> <p>Fuel burners, hints to.....25019</p> <p>Fuel, burning, economy in.....24875</p> <p>Fuel, economy of.....24788</p> <p>Fuel, liquid, recent develop.....*24681</p> <p>Fuel, peat, in U. S.....*24973</p> <p>Fuels, relative value of.....24763</p> <p>Fuels, smokeless.....24811</p> <p>Furnace, electric.....24747, 24764</p> <p>24811</p> <p>Furnace, electric, indust. uses.....24827</p> <p>Furnace, electric, products.....24907</p> <p>Furnaces, blast, electric power.....24774</p> <p>Furnaces, carbon tube.....*24770</p> <p>Furs, other.....24974</p> <p><b>G</b></p> <p>Galvanometer, protected.....*24928</p> <p>Galvanoplasty, baths for.....25051</p> <p>Gas engine construction.....24811</p> <p>Gas engine efficiency.....24742</p> <p>Gas engine regulation.....25052</p> <p>Gas engines, compression in.....25081</p> <p>Gas engines, large, develop.....24795</p> <p>Gas for power and heating.....25026, 25038</p> <p>Gas, illuminating, dangers.....24781</p> <p>Gas, power, British opinion.....24814</p> <p>Gas, producer, boat.....*24873</p> <p>Gas, producer, lignite.....*24900</p> <p>Gas producer power plants.....*24656</p> <p>Gases, blast furnace.....24731</p> <p>Gases, arsenated, purificat.....24940</p> <p>Gases, compression of.....*24816</p> <p>Gases, kinetic, theory of.....25081</p> <p>Gases, poisonous, expulsion.....24795</p> <p>Gases, pure, preparation.....*24665</p> <p>Gasoline motors, English.....*24757</p> <p>Gasoline tractor, War Office.....*24773</p> <p>Gear, reversing, novel.....*24884</p> <p>Gear, steering, electric.....*24885</p> <p>Geography, science of.....25036</p> <p>Geography, study of.....25020</p> <p>Gilder work over sea water.....24779</p> <p>Gilder work, painting.....24795</p> <p>Girders, protection of.....24956</p> <p>Glass paving bricks.....24658</p> <p>Glow discharges in mercury.....25075</p> <p>Glower in vacuum.....24671</p> <p>Glue, dextrine.....24683</p> <p>Gold and marble, land of.....25034</p> <p>Gold and science.....24975</p> <p>Gold extraction by cyanide.....24805</p> <p>Gold, mining.....24739</p>	<p>Governor, spring, Toll.....*25007</p> <p>Grape leaves in medicine.....24923</p> <p>Grape vine and its fruit.....24716</p> <p>Grape vines, age of.....24988</p> <p>Graphite tube furnace.....*24770</p> <p>Grates, furnace.....24939</p> <p>Gravity, perception by plants.....*24970, *24978</p> <p>Gravity, specific.....*24913</p> <p>Gravitation, nature of.....24999</p> <p>Gun, red, use of.....24847</p> <p>Gutta percha.....24730</p> <p><b>H</b></p> <p>Hall effect.....24810</p> <p>Handloom, passing of the.....24673</p> <p>Harness, coating for.....24828</p> <p>Head hunters of Borneo.....25034</p> <p>Headaches.....24904</p> <p>Health, public.....24699</p> <p>Heat.....24905</p> <p>Heat, action on gases.....24699</p> <p>Heat by electricity.....25051</p> <p>Heat, high efficiency.....24668</p> <p>Heating, hot-air.....24798</p> <p>Heraldry, Japanese.....24888</p> <p>Herculaneum.....24660</p> <p>Hierakonopolis, discoveries in.....24913</p> <p>Hindu notation of numbers.....24827</p> <p>Horseflesh, consumption of.....24743</p> <p>Hotel, big, how managed.....24682</p> <p>Hustling, art of.....24790</p> <p>Hydrocarbon oils.....24862</p> <p>Hydrogen from cathodes.....25067</p> <p>Hydrogen generating plant.....*24816</p> <p>Hydrogen, liquefying.....24704</p> <p>Hydrometer, how to make.....*24913</p> <p>Hydroscopic compound.....24812</p> <p>Hysteresis, magnetic.....24747</p> <p><b>I</b></p> <p>Ice, anchor.....24697</p> <p>Ice and water, physical prop.....24663</p> <p>Ice yacht construction.....24932</p> <p>Ignition systems, electric.....*24769</p> <p>Illusions, optical.....24994</p> <p>Image, the latent.....24802</p> <p>Indigo indust., improvements.....24791</p> <p>Indicator, water-level.....*24705</p> <p>Industry, march of.....24859</p> <p>Industry, passing of a.....24673</p> <p>Industries, new.....24795</p> <p>Ink-fish, the.....*24848</p> <p>Ink for celluloid.....24838</p> <p>Ink for designs.....24812</p> <p>Ink spots, removal.....24812</p> <p>Ink, sympathetic.....24812</p> <p>Insect paper makers.....*25080</p> <p>Invention in G. Britain, etc.....*24936</p> <p>Iodohydric gas, prep.....24665</p> <p>Iron alloys, use of.....24755, 24859</p> <p>Iron, coatings for.....24876</p> <p>Iron, cast, vast resistance.....24972</p> <p>Iron castings, to soften.....24892</p> <p>Iron, ionoplastic, properties.....24899</p> <p>Iron, paper as protection.....24785</p> <p>Iron plate scrap, pickling.....24907</p> <p>Iron, tinning.....24907</p> <p>Iron work, old, repairing.....24923</p> <p>Iron, wrought, rusting of.....24763</p> <p><b>J</b></p> <p>Japan, education in.....24781</p> <p>Japan, trade of.....24856</p> <p>Jelly fishes.....*24916</p> <p>Joints, expansion, concrete.....24855</p> <p><b>K</b></p> <p>Kerosene wagon, auto.....*24894</p> <p>Kiel canal.....24668</p> <p>Kimberley.....24850</p> <p>Kite, Malay, folding.....*24920</p> <p>Kremnite.....24747</p> <p><b>L</b></p> <p>Laboratory apparatus, use of.....24795</p> <p>Laboratory for testing mater.....*24814</p> <p>Laboratory instruction.....24779</p> <p>Lamp, arc, new.....24715</p> <p>Lamp, incandescent, in medicine.....25078</p> <p>Lamp, safety, electric.....24923</p> <p>Lamp, tantalum, the.....24683</p> <p>Lantern, Dupuis &amp; Schmidt's.....*24673</p> <p>Lantern, scientific, the.....*24768</p> <p>Lard adulteration.....24795, 24827</p> <p>Lathes for amateurs.....*25024</p> <p>Lawn mowers, auto.....*24692</p> <p>Lead-aluminum alloy.....24906</p> <p>Lead plate, tinned.....24892</p> <p>Leaf, green, utiliza. of energy.....24678</p> <p>Lens, isometrepe.....24667</p>
---	--	--	---	--	---



- Lenses, telescope, manufact. .... 24913  
Life, wild, reading. .... 24905  
Light, electric and vision. .... 24715  
Light, electro-mag. theory. .... 24698  
Light, oxygen. .... 24863  
Light, radiation pressure. .... 24666  
Light, velocity of. .... 24914  
Light, what is. .... 24871  
Lighthouse, cement. .... 24896  
Lighthouse, concrete. .... 24802  
Lighting, electric, for am-  
teurs. .... 24856  
Lignite producer-gas. .... 24900  
Lime mixer. .... 24857  
Linoleum composition. .... 24812  
Liquids volatile in explos. mo-  
tors. .... 24668  
Lithography, origin of. .... 24837  
Locomotive boiler, life of. .... 24891  
Locomotive, the steam. .... 25081  
Locomotive, Mallet. .... 24875  
Locomotive, weight, increase. .... 24843  
Locomotives, piston valve. .... 24972  
Locomotives, steam and elec. .... 24734  
Lotus tree, sacred. .... 25045  
"Lübeck," turbine cruiser. .... 24669  
Lubrication, high temperature. .... 24907  
Lubricants. .... 24862  
Lycopodium substitute. .... 24940  
Lye for bleaching. .... 24812
- M**  
Machine operation, phenom. of. .... 24926  
Machinery, packing for exp. .... 24798  
Madera, a glass of. .... 25014  
Magnetic double refraction. .... 25075  
Magnetism, conceptions of. .... 24949  
Magnetism, earth's. .... 25051  
Magnetization, magnetic bod. .... 24966  
Magnets, cast-iron, hardened. .... 24751  
Man, stature of. .... 25086, 24998  
Manchuria, army sanitation in. .... 24675  
Manures, flower. .... 24731  
Maple sugar industry. .... 24909  
Marble surfaces, restoring. .... 24859  
Mars, north polar cap of. .... 24826  
Mastication, good, importance. .... 24779  
Matter and ether. .... 24963  
Meat, horse, in Germany. .... 24743  
Medical art, progress. .... 24955  
Medicine, rationalism in. .... 24971  
Medusae. .... 24916  
Mentalism, science of. .... 25015  
Metal objects, cleaning. .... 25019  
Metals, act. on infect. maid. .... 24707  
Metals, cleaning. .... 24812  
Metals in the atmosphere. .... 25009  
Metals, precious, at discovery. .... 24763  
Metals, inductive capacities. .... 24870  
Metals, indu. on oxidation. .... 24699  
Metals, precious, recovery of. .... 24738  
24758, 24775  
Metals, refractory, casting. .... 24844  
Metalizing articles. .... 24876  
Metal, torsion, a. .... 24724  
Methane, pure. .... 24859  
Micrometer, electric. .... 24963  
Milk as a preservative. .... 24795  
Milk dangers, avoidance. .... 24886  
Milk, solid. .... 24877  
Milky way, the. .... 24968  
Minerals, specific gravity. .... 24898  
Mines, gaseous and non-gas. .... 24683  
Mining, gold. .... 24739  
Mink furs. .... 24968  
Mirrors, silvering. .... 25027  
Mittellandse, new type of. .... 24859  
Moisture, value to plants. .... 25020  
Mortars and cements. .... 25017  
Moses as a sanitarian. .... 24779  
Moss dwellers. .... 24937  
Motor, Arrol-Johnston. .... 24921  
Motor as a thrasher. .... 24917  
Motor cars, winning. .... 24921  
Motor coaches, railway. .... 25005  
Motor cycle race. .... 24772  
Motor, Daimler's. .... 24681  
Motor, gasoline, new. .... 25016  
Motor, induction, as generator. .... 24835  
Motor, induction, slip of. .... 24751  
Motor, Lefevre. .... 24853  
Motor omnibuses, English. .... 24718  
Motors, gas, German. .... 24956  
Motors, gasoline, English. .... 24757  
Motors, internal-combustion. .... 24859  
Mowers, lawn, auto. .... 24692  
Mucilage, dextrine. .... 24812
- N**  
Nature, how to read. .... 24905  
Navigation, aerial, principles. .... 24991  
Nebulae, spiral. .... 24969  
Negative numbers. .... 24863  
Negatives, broken, repair. .... 24852  
Negatives, pin holes in. .... 24715  
Nets and booms vs. torpedoes. .... 24715  
Nerves, study of. .... 24955  
Nickel, Argento, process. .... 24940  
Nickel, cleaning. .... 24828  
Nitrogen fixation. .... 24939  
Nitrogen, organic sources of. .... 24971  
Nitrogen plant. .... 24816  
Nitrogen, pure, prep. .... 24665  
Novelties, some scientific. .... 24659  
Nut growing in United States. .... 24732
- O**  
Laboratory, imaginings in. .... 25015  
Lactor, castor. .... 24763  
Lactor, uses of. .... 24795
- Oil for highways. .... 24699  
Oil, purification of, electric. .... 24707  
Oils, hydrocarbon. .... 24862  
Olive oils, so-called. .... 25036  
Omnibuses, motor, English. .... 24718, 24740  
Omnibuses, Serpollet. .... 25061  
"Onko," steamer. .... 24964  
Opera glasses, types of. .... 24673  
Optical science, progress. .... 24674  
Ore deposition, theories of. .... 25046, 25062  
Ore deposition theories. .... 25078  
Organs, barrel, curious. .... 24804  
Otter furs. .... 24974  
Oven, plate drying. .... 24664  
Oxides, reduction, electric. .... 24891  
Oxygen and oxygen light. .... 24863
- P**  
Pack, Americans learning to. .... 24784  
Paddlewheel for small boats. .... 25013  
Pail, Goux. .... 24857  
Paint, preservative. .... 24828  
Paints, luminous. .... 24859  
Painting glider work. .... 24795  
Painting tests, conducting. .... 24734  
Paleontological coll., Roth-  
schild. .... 24781  
Pallograph, Schlick. .... 24688  
Panama, work at. .... 25043  
Paper, metallic. .... 25018  
Paper protect. for iron. .... 24785  
Patchouli plant. .... 24783  
Patina, copper. .... 24683  
Patterns, foundry, metal. .... 24993  
Peat fuel in U. States. .... 24973  
Peat, utilization of. .... 24910  
Pencils, copying. .... 25075  
Perepusk. .... 24859  
Petroleum production, 1904. .... 25013  
Phonetics, experimental. .... 25008  
Phosphate, artificial. .... 24844  
Phosphorescence of diamonds. .... 24809  
Phosphorus. .... 24827  
Photography, balloon. .... 24923  
Photography, color, Lippmann's. .... 24720  
Photography, progress, recent. .... 24692  
Photography, tele. .... 24861  
Photometer, spectro, the. .... 24864  
Photosynthesis. .... 24843  
Photosynthesis. .... 25068  
Photosynthesis, temperature in. .... 25080  
Physicians, too many. .... 24939  
Physiology, plant. .... 24875  
Pictures with romantic hist. .... 24711  
Pitch, preparation. .... 24955  
Plains, great, central. .... 24845  
Plant breeding. .... 24660  
Plant nutrition. .... 24971, 24988  
Plant physiology, developm. .... 24684  
Plant physiology, problems. .... 24748  
Plant relation of to solutions. .... 24763  
Plants, color in. .... 24842  
Plants, cytological study. .... 25003  
Plants, light from. .... 25001  
Plants, requirements of. .... 24923  
Plate drying oven. .... 24664  
Plates, dry, testing. .... 24864  
Plating, electro, chemistry of. .... 24930  
Platinum and its alloys. .... 24991  
Platinum, radiation of. .... 24829  
Plauen viaduct. .... 24837  
Plov, genesis of the. .... 24810  
Plov, snow, Wilder. .... 25033  
Plumes, coloring, observations. .... 24878  
Pluviometer, Gallenkamp's. .... 25000  
Polish, clear. .... 24683  
Polishing powder. .... 24795  
Porcelain. .... 25047  
Porcelain, manufacture of. .... 24922  
Posdamer Platz, electric light. .... 24764  
Power distribution. .... 24983  
Power house, concrete. .... 25032  
Power plant, Brembo River. .... 25070  
Power plants, gas producer. .... 24656  
Power, tidal, utilization. .... 24832  
Power transmission, etheric. .... 24667  
Preservatives, effect of. .... 24934  
Pressures, high, in fungi. .... 24795  
Prints, old, restoration. .... 24879  
Prison on the Forth. .... 24723  
Problems, electrical. .... 24999  
Producer, Capitaine. .... 24873  
Producer gas, lignite. .... 24900  
Projections, stereoscopic. .... 24672  
Projector, Dupuis & Schmidt's. .... 24673  
Protein in food. .... 24858  
Protoplasm, artificial. .... 24988  
Protozoa, cultures of. .... 25020  
Pump, centrifugal. .... 24939  
Pumps, centrifugal, compound. .... 24699, 24843  
Pumps, centrifugal, balancing. .... 24956  
Pumps, centrif., end-thrust of. .... 24875  
Pumps, turbine, modern. .... 24976  
Putty, tin. .... 24907  
Pygmies, home of. .... 24713  
Pyrometers and thermometers. .... 24708  
Pyrometer and thermometer. .... 25048
- Q**  
Quartz, fused, for glassware. .... 24860
- R**  
Radiation. .... 24936  
Radiation, a new. .... 24843  
Radiation from ordinary mat. .... 24667  
Radiation pressure. .... 24667
- Radiation, temperature. .... 25075  
Radioactive element, new. .... 24759  
Radio-active matters in air. .... 24843  
Radio-active substances. .... 24810  
Radio-activity at waterfalls. .... 24946  
Radiography, electric. .... 24884  
Radiography in army. .... 24676  
Radiotellurium. .... 25080  
Radium, absorption of. .... 24720  
Radium, action on diamond. .... 24899  
Radium, action on gelatin. .... 24712  
Radium, alpha rays of. .... 24810  
Radium, bromide action. .... 24923  
Radium, gamma rays of. .... 24714  
Radium in cancer. .... 24899  
Radium, note on. .... 24714  
Radium, recent study of. .... 24990  
Radium, terrestrial heat from. .... 24667  
Railway signals. .... 24699  
Railway signaling, electric. .... 24957  
Railways, long distance. .... 24796  
Railways, Prussian. .... 25003  
Railroad, N. Y. C., electrif. .... 25022  
Railroad, Santa Fe, extending. .... 24685  
Railroads, electric, new. .... 24731  
Rainfall, phenomena of. .... 25000  
Rays, N. constitution of. .... 24795  
Rays, N. emission of. .... 24691  
Rays, Röntgen. .... 24999  
Rays, X, chemical effects. .... 25018  
Recipes. .... 24683, 24700, 24715  
24749, 24780, 24795, 24828, 24844  
24859, 24876, 24892, 24907, 24924  
24940, 24955, 25004  
Receivers, thermo-elect. .... 24667  
Red gum, use of. .... 24847  
Red, Turkey. .... 24748  
Reinforced concrete. .... 24784, 24800  
Relics, counterfeited. .... 24775  
Resistance, electrical. .... 24796  
Respiration apparatus. .... 25060  
Rings, colored, on metal. .... 24907  
Road construction. .... 24715  
Rocks for roads. .... 24731  
Rocks for roads, testing. .... 24750  
Rods, cast steel. .... 24907  
Rolling mill engines, powerful. .... 24926  
Rosin, residue, utilization. .... 25067  
Roof covering. .... 24812  
Roofs, concrete. .... 24800  
Rope diseases. .... 24985  
Ropes, protection vs. rot. .... 24859  
Rothschild fossil collect. .... 24781  
Rough casting, Canadian. .... 25059  
Rubber. .... 24703  
Rust, removal from instrum. .... 24683
- S**  
Saghalien Island. .... 24710  
Sakhalin—what it is. .... 24840  
Salt product, in 1904. .... 24867  
Salts, watery solution. .... 25051  
Sample take for dredg. uses. .... 24725  
Santa Fe Railroad, extending. .... 24685  
Sauce, Worcestershire. .... 24731  
Scale, boiler, removal. .... 24815  
Science, developments. .... 24908  
Science, electrical. .... 24666, 24698  
24714, 24720, 24759, 24810, 24827  
24843, 24887, 24899, 24928, 24939  
24903, 24999, 25066, 25075  
Science notes. .... 24666, 24684  
24699, 24716, 24732, 24748, 24763  
24779, 24811, 24827, 24843, 24859  
24875, 24891, 24908, 24923, 24939  
24955, 24971, 24988, 25003, 25020  
25036, 25051, 25068, 25080  
Science, social pioneers of. .... 24662  
Scientific incongruities. .... 24690  
Sea, rhythmic movements. .... 24821  
Sea wall, Henneberg. .... 24802  
Sea water, electrolyzing. .... 24923  
Sea gulls as carriers. .... 24908  
Seals for freight cars. .... 24889  
Searchlight "Salvator". .... 24995  
Searchlight, transportable. .... 24805  
Seed house, curiosities of. .... 24661  
Seeds, where grown. .... 24915  
Seedling stage, investigation. .... 24807  
Senses, how they deceive us. .... 24934  
Sepia, the. .... 24848  
Serum, note on. .... 24908  
Sevres ware, manufacture. .... 24922  
Sewage, disposal of. .... 24857  
Shall we die of thirst. .... 24707  
Signaling apparatus. .... 25035  
Signaling, railway, electric. .... 24957  
Signals, railway. .... 24699  
Signals, submarine. .... 24872  
Silica, vessels of. .... 24795  
Silicic acid of manganese. .... 25075  
Silicon, increase of. .... 24811  
Silk, artificial. .... 24878  
Silver amalgam, to make. .... 24892  
Silver plating, modern. .... 24907  
Silver wire, conductivity. .... 25003  
Simpson tunnel. .... 25061  
Skeleton construction, iron. .... 24891  
Smoke consumer, Wegener. .... 24789  
Smoke problem. .... 24843  
Smuts of wheat, oats, etc. .... 24855  
Snow-plow, Wilder. .... 25033  
Soap, antiseptic. .... 24828  
Soap, antiseptic, liquid. .... 24812  
Soda, bleaching. .... 24795  
Soda, percarbonate, product. .... 24924  
Soils, composition of. .... 24859  
Soils, nature of. .... 24779  
Soils, our, mapping. .... 25051  
Solar and terrestrial changes. .... 24826  
Solder for steel. .... 24828  
Solder, soft, alloys. .... 24780  
Soldering fluid, recipe. .... 25067  
Solubility, chemical. .... 24963
- Sound, audible, minimum. .... 25067  
Spark, electric, experiment. .... 25015  
Spark length, Wilmshurst. .... 24759  
Sparks from belting. .... 24907  
Sparkling systems, electric. .... 24769  
Specific gravity. .... 24913  
Spectra from vacuum tubes. .... 24843  
Spectroscopy, history of. .... 24914  
Speed, high, on railways. .... 24866  
Sphygmograph, Jacquet's. .... 24905  
Spider and her web. .... 24848  
Spiders, hermit. .... 24953  
Spinning, novelties in. .... 24878  
Squid, the. .... 24848  
Stain, ebony. .... 25004  
Stains, removal from varnish. .... 24795  
Stains, turpentine. .... 25002  
Stains, wood. .... 24789  
Stains, concrete. .... 24800  
Star, evolution of. .... 24950  
Stars, notes on the. .... 24807  
Stars, number of the. .... 25020  
Starter, auto, for motor. .... 24693  
Statement, art of making. .... 24804  
Statistics, science of. .... 24891  
Station, N. Y. Central. .... 25023  
Statues, small, production. .... 25019  
Stature of man. .... 24986, 24998  
Steam boilers, note on. .... 24887  
Steam econ., suggestions for. .... 24895  
Steam jets with coal consump. .... 24795  
Steam, nature of. .... 24779  
Steam plants, loss in. .... 24891, 24987  
Steam power plants. .... 24843  
Steam, superheated. .... 24972  
Steamer "John Stevens". .... 24929  
Steamer "Stephan". .... 24796  
Steel, aluminum. .... 24999  
Steel, carbon in. .... 24779  
Steel, electric resistance. .... 24764  
Steel hardening agent. .... 24780  
Steel in construction. .... 24795  
Steel, nickel. .... 24811  
Steel, protected by paper. .... 24785  
Steel, protect. from rust. .... 24855  
Steel researches. .... 24856  
Steel, solder for. .... 24828  
Steel work, rust in. .... 24811  
Steering gear, electric. .... 24885  
"Stephan" cable steamer. .... 24796  
Stereoscope, Drouin's. .... 24673  
Stereoscopic projections. .... 24672  
Stereoscope, the. .... 24673  
Sternwheel, motor, for boats. .... 25013  
Stoker, mechanical, Wegener. .... 24788  
Stokers, automatic. .... 24699  
Stokers, mechanical. .... 24843  
Stokers, underfeed. .... 24779  
Stone, wood. .... 24859  
Storage problem. .... 24683  
Storm waves. .... 24821  
Stroboscopic observations. .... 24824  
Submarine. .... 24942  
Submarine, new type of. .... 24731  
Submarines. .... 24680, 24838  
24917, 24933  
Submarines, accidents, cause. .... 24880  
Sugar, maple, industry. .... 24909  
Sulphur in calcium carbide. .... 24955  
Sulphur in charcoal. .... 24923  
Sun, eclipse of. .... 24808  
Sun, electric charge of. .... 24698  
Surveys, marine. .... 25051  
Switch, hunting. .... 24885
- T**  
Tanks, steel-concrete. .... 24855  
Tantalum alloys. .... 24799  
Tantalum lamp. .... 24683  
Tea-making machinery. .... 24815  
Teachers, wandering, Bavaria. .... 24839  
Telegraph, Cerebotani. .... 24736  
Telegraph, Page. .... 24811  
Telegraph systems, printing. .... 24764  
Telegraphs, page-printing. .... 24903  
Telegraphs, printing. .... 24731  
24747  
Telegraph, transmiss. of photos. .... 24860  
Telegraphy, printing. .... 24715  
Telegraphy, wireless. .... 24747  
Telegraphy, wireless, France. .... 24860  
Telegraphy, wireless, Interfer-  
ence. .... 24883  
Telegraphy, wireless, Marconi. .... 24811  
Telegraphy, wireless, Peru. .... 24796  
Telegraphy, wireless, resonance. .... 24667  
Telephone, evolution of. .... 24695  
Telephones for transmt. time. .... 24731  
Telephony, wireless. .... 25035  
Telephony, wireless. .... 24827  
Telephotography. .... 24861  
Telescope, construction of. .... 24728  
24744, 24760, 24776  
Telescope, lenses, manufact. .... 24913  
Telescope, stereoscopic. .... 24673  
Telluric currents. .... 24984  
Textile indust., novelties in. .... 24878  
Testing machines. .... 24813  
Theatrical engineering. .... 24686, 24701  
Thermometer and pyrometers. .... 25048  
Thermometer, metallic. .... 24905  
Thermometers and pyrometers. .... 24708  
Thermostat. .... 24905  
Thermostat for amateurs. .... 25014  
Tick fever. .... 25068  
Tide predictor. .... 24821  
Tide-recording apparatus. .... 24705  
Tides, power of, utilization. .... 24832  
Time register, Dey. .... 24689  
Tin-aluminum alloy. .... 24906  
Tinned iron clippings, use. .... 24844  
Tobacco, chemistry of. .... 24909  
Tools steel, marking. .... 24715  
Torsion meter. .... 24724
- Traction, accumulator. .... 248  
Traction, electric, Prussia. .... 250  
Tractor, agricultural. .... 249  
Tractor, gasoline, war office. .... 247  
Trade notes. .... 24683, 24700, 247  
24747, 24780, 24795, 24828, 248  
24859, 24876, 24892, 24907, 249  
24940, 24955, 25004, 25019, 2503  
25051, 25067, 250  
Tramway lines, German. .... 250  
Transit, rapid, in great cities. .... 248  
Transmission, electric, earth  
in. .... 250  
Transmitters, tel. cur. var. .... 248  
Trees, ascent of water in. .... 249  
Trees, felling for timber. .... 248  
Trifles, utilizing. .... 246  
Truckee-Carson reclamation. .... 248  
Trucks, Serpollet. .... 250  
Tunnel, Hudson River. .... 249  
Tunnel, Siphon. .... 250  
Tunnel, Siphon. .... 250  
Tunnels of the world. .... 247  
Tunnels under the Hudson. .... 248  
Tunnels, underground, Chicago. .... 248  
Turbine, design, problems in. .... 247  
Turbine engines, simple. .... 25041, 250  
Turbine, gas, Zoelly. .... 250  
Turbine pumps, modern. .... 249  
Turbine, steam. .... 247  
Turbine, steam, on warships. .... 246  
Turbine, steam, testing. .... 247  
Turbine, steam, Zoelly. .... 247  
Turbine steamers, manuev. of. .... 247  
Turbines, experiments with. .... 247  
Turbines, steam, classification. .... 249  
Turbines, steam, starting. .... 248  
Turpentine stains. .... 250  
Typhoid, copper in. .... 248
- U**  
Unemployment, cause and rem. .... 2467  
Uranium products. .... 2506
- V**  
Vacuum augmentor. .... 2475  
Vacuum tubes, spectra from. .... 2484  
Valve, piston, the. .... 2505  
Valves, piston, in locomotives. .... 2492  
Vanes, diffusion. .... 2487  
Varnish, brown. .... 2503  
Varnish for bronze. .... 2471  
Varnish, gold, for tin. .... 2468  
Vegetable growing. .... 2498  
Vegetable, substances, fragrant. .... 2484  
Vegetables, preservation of. .... 2476  
Vehicles, industrial, English. .... 2480  
Vessels, iron and steel hull. .... 2491  
24928, 24943, 24964, 2498  
2499  
Viaduct, Plauen. .... 2483  
Victoria Falls bridge. .... 2494  
Vine, grape, large. .... 2500  
Voltmeter, recording. .... 2469
- W**  
Wagon, dumping, auto. .... 2489  
Walking, a problem in. .... 2485  
Wallingford, historic. .... 2480  
Wasps, curious habits of. .... 2474  
Watches, demagnetization of. .... 2501  
Watchmaking, masterpieces. .... 2472  
Water culture methods. .... 2480  
Water, hardness, determination. .... 2505  
Water, impurities of. .... 2501  
Water-level, indicator. .... 2470  
Water, locomotive boiler. .... 2500  
Water pipe, concrete. .... 2480  
Water purification, electric. .... 2470  
Water, subterranean, iron in. .... 2487  
Waterproofing, cloth. .... 2501  
Waterproofing fabrics. .... 2508  
Waterproofing for fabrics. .... 2485  
Waterproofing wood. .... 2478  
Waves, Hertzian, measurement. .... 2482  
Waves of the ether. .... 2468  
Waves, storm. .... 2482  
Wax, artificial. .... 2482  
Wax, testing. .... 2503  
Weather glasses, how made. .... 2505  
Weevils, chestnut. .... 2474  
Wheat, production, average. .... 2477  
Wilt, the disease. .... 2505  
Windows, store, to clean. .... 2481  
Wing surface and flight. .... 2503  
Wire, electric, novel. .... 2501  
Wires, fine, electrolyt. manuf. .... 2482  
Wires, galvanizing. .... 25004  
Wireless tele-mechan. action. .... 2492  
Wood and metals, protection of. .... 25051  
Wood distillation. .... 25057  
Wood for color absorpt. .... 25082  
Wood, protect. vs. moisture. .... 2482  
Wood stains. .... 24789  
Wood surfaces, restoring. .... 24859  
Wool grease for waterproofing. .... 24855  
Worcestershire sauce. .... 24731  
World-building, theories of. .... 24703
- Y**  
Yacht, lee, construction. .... 2482
- Z**  
Zinc-aluminum alloy. .... 24909  
Zinc, castings for. .... 24876

.....248  
.....250  
.....\*249  
ce...\*247  
700, 247  
828, 248  
907, 249  
010, 250  
007, 250  
.....250  
lea. 248  
arth  
.....\*250  
f...248  
.....249  
.....248  
.....246  
a...\*248  
.....\*250  
.....249  
.....250  
.....250  
.....\*247  
.....\*248  
ago. 248  
ln. 247  
  
11, \*250  
.....\*250  
.....\*249  
.....247  
s. \*246  
.....247  
.....\*247  
of. 247  
.....247  
lon. 249  
.....248  
.....250  
.....248  
  
rem. 2467  
.....2506  
  
.....\*2475  
.....2484  
.....2505  
ves. 2492  
.....2487  
.....2503  
.....2471  
.....2468  
.....2498  
rant 2484  
.....2470  
a. \*2480  
.....2491  
t, \*2498  
\*2496  
.....2483  
.....\*2494  
.....2500  
.....\*2469  
  
.....\*2489  
.....2485  
.....2480  
.....2474  
of. \*2501  
.....\*2472  
.....2480  
lon. 2505  
.....2501  
.....\*2470  
.....2500  
.....\*2480  
.....\*2470  
n. 2487  
.....2501  
.....2508  
.....2485  
.....2478  
ent. 2482  
.....2468  
.....\*2482  
.....2482  
.....2503  
.....2505  
.....2474  
.....2477  
.....2505  
.....2481  
.....2503  
.....2501  
f. 2482  
.....2500  
.....2492  
of. 2505  
.....2505  
.....2508  
.....2489  
.....2478  
.....2459  
ag. 2485  
.....2473  
.....2470  
  
\*2482  
  
2487  
2487